Welcome to this lecture in the courses, where we are going to be discussing private and public blockchains. This will help you to further understand the constructs of blockchains.

So by now, you know lots about blockchain technology, and you also know that bitcoin is built upon a public blockchain, but did you know there are two other types of blockchains as well?

In addition to public blockchains, there are also consortium blockchains and private blockchains.

Lets kick this lecture off by first reinforcing what we know about public blockchains. These blockchains are most commonly known to the masses due to the rise of Bitcoin.

So with Bitcoin, as it is based on a public blockchain, anyone in the world can download the entire Blockchain and essentially read the data. With Bitcoin, you can see the amount of Bitcoins sent to and from certain addresses and so on. What I’m trying to get across is that with public Blockchains it’s fully public, though that doesn’t mean insecure, as it’s secured by the power of cryptography. It’s part of the fully decentralised nature of blockchain technology.

Now I’d like to move onto consortium blockchains. This sort of blockchain isn’t fully public, so me, you or anybody can’t just get involved. A consortium blockchain is controlled by a pre-selected set of nodes i.e. computers.

The best way to visualise a consortium blockchain is to lets say imagine ten banks that run that blockchain. All of them been pre-approved, unlike with a public blockchain. Then for any block to be processed by the chain, a minimum of say six banks must sign that transaction off. It can then be added to the chain.

But remember, only those ten banks can sign the transaction. No others. And with regards to viewing the transactions, it is up to the consortium to decide what level of access and transparency to offer to outsiders. A good example of a potential use for consortium blockchains could be medical records or voter records, which should only be able to be verified by a select group of computers, but which may need to be publicly visible depending on the situation.

Now these consortium blockchains are considered partially decentralised, not fully decentralised as the public blockchains are.

And finally, we have private blockchains. This is actually sort of a taboo topic, as many don’t feel these are actually legitimate blockchains. Private blockchains are, as the name suggests, private. All permissions for the blockchain are kept centralised, so let’s do the bank example again. All permissions would be kept to that one bank and it’s own computer around the world.

Now blockchain technology is typically decentralised, so centralising it definitely brings out the critics. For the most part, these are the sort of blockchains banks are experimenting with.

The most likely applications for private blockchains include the likes of database management, auditing, and basically anything that is internal to that company. So when the critics come out on the topic of private blockchains, the opposing party generally express their view of it being necessary to be private.

So , those are the three types of blockchains you need to be aware of. Public blockchains, consortium blockchains, and private blockchains. As Blockchain continues to become more and more integrated into commerce and governance, you’ll definitely see each of these be expanded upon and implemented in unique and interesting ways.

See you in the next lecture, where we will discuss just how this blockchain technology can be applied to many use cases. Not just cryptocurrencies!